

REMARKS

Preliminary Matter

Applicants thank the Examiner for acknowledging the claim for priority under 35 U.S.C. § 119 and receipt of the certified copy of the priority document. Applicants also thank the Examiner for considering the references cited with the Information Disclosure Statement filed on December 29, 2005. The Examiner's acceptance of the drawings is also appreciated.

Status of the Application

Claims 1-19 have been examined. Claims 2 and 18 are hereby canceled without prejudice or disclaimer. Hence, claims 1, 3-17, and 19 are all the claims pending in the application. Claims 3, 4, 6, 8-12, and 19 are hereby amended for reasons of precision of language. These amendments were made merely to more accurately claim the invention, and do not narrow the literal scope of the claims and thus do not implicate estoppel in the application of the doctrine of equivalents.

Claim Rejections - 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-2, 5-6, and 13-19 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2002/173312 to Takano et al. (hereinafter "Takano") in view of U.S. Patent No. 6,788,737 to Miyoshi et al. (hereinafter "Miyoshi"). This rejection is respectfully traversed.

For example, claim 1 recites a radio communication system that includes first and second radio communication apparatuses which communicate with each other by radio. The first radio communication apparatus includes a propagation path environment estimator which outputs

propagation path environment information and a propagation path quality estimator which outputs propagation path quality information. The first radio communication apparatus also comprises an error detector which detects an error in a signal from the second radio communication apparatus and outputs the error as an error detection result. The second radio communication apparatus includes a transmission mode selector having a plurality of transmission modes each having a threshold value corresponding to a value of the propagation path quality information. The transmission mode selector selects one of the plurality of tables according to the propagation path environment information and one of the transmission modes in the selected table according to the propagation path quality information. The transmission mode selector also rewrites, in accordance with the error detection result, a threshold value registered in the table to correspond to the selected transmission mode.

Takano is directed to a mobile communications system including a base station 1 and a mobile station 2. The mobile station 2 includes a reception quality measurement unit 28 that measures the reception quality of a signal. The base station 1 includes a modulation-coding mode switch selection unit 15 that determines which modulation-coding mode is to be selected depending on the current link quality. The modulation-coding mode switch selection unit 15 includes a threshold table 15b having a plurality of thresholds. An error detection unit 27 determines the presence/absence of a reception error in the signal, and a threshold variable control unit 15c variably controls a plurality of thresholds stored in the threshold table 15b based on the contents of a reception error notification from the error detection unit 27.

The Examiner contends that Takano's mobile station 2 and base station 1 correspond to the claimed first and second radio communication apparatuses, respectively. The Examiner also asserts that the reception quality measurement unit 28 corresponds to the claimed propagation path quality estimator and that the modulation-coding mode switch selection unit 15 corresponds to the claimed transmission mode selector. The Examiner further alleges that Takano's error detection unit 27 corresponds to the claimed error detector. However, Takano does not teach or suggest that the alleged transmission mode selector 15 includes a *plurality* of tables, as Takano's modulation-coding mode switch selection unit 15 includes only a single table. The Examiner admits that Takano fails to disclose a propagation path environment estimator and that the transmission mode selector selects one of the plurality of tables according to the propagation environment information and selects one of the transmission modes according to the propagation path quality information. The Examiner cites Miyoshi to supply these deficiencies.

Miyoshi is directed to a communication terminal apparatus including an SIR detection section 205 that detects reception quality of a pilot signal and an fd detection section 206 that detects Doppler frequency fd using the pilot signal. A modulation method is determined using thresholds provided according to fd.

The Examiner contends that the fd detection section 206 corresponds to the claimed propagation path environment selector and that the Doppler frequency fd corresponds to the claimed propagation path environment information.

In order to maintain a rejection under 35 U.S.C. § 103(a), the combination of Takano and Miyoshi must teach all of the limitations of claim 1. Moreover, although a prior art device may

be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so. *In re Fritch*, 972 F.2d 1260, 23 USPQ2d, 1780 (Fed. Cir. 1992). There is no motivation in Takano to include a plurality of tables in the alleged transmission mode selector 15.

Furthermore, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Referring to col. 5-6, lines 52-16 of Miyoshi, thresholds 1 and 2 are each provided for the separate case in which fd is high or fd is low. However, when the teachings of Miyoshi are combined with those of Takano, if the value of fd measured in Miyoshi's fd detection section 206 is continuously erroneous, the error rate characteristic deteriorates at a wide range, because an erroneous threshold value is fixedly used. Thus, the alleged modification would render the apparatus of Takano unsatisfactory for its intended purpose of providing a mobile communications system capable of setting the optimum threshold (paragraph 16 of Takano).

For all of the foregoing reasons, Applicants respectfully submit that the asserted combination of Takano and Miyoshi does not render claim 1 unpatentable and respectfully request withdrawal of the rejection.

Because claim 2 has been cancelled without prejudice or disclaimer, Applicants submit that the rejection to this claim is rendered moot. Applicants also submit that claims 5-6, and 13-17, being dependent on claim 1, are patentable at least by virtue of their dependency. Because

claim 18 has been cancelled without prejudice or disclaimer, Applicants submit that the rejection to this claim is moot. Withdrawal of the rejection is respectfully requested.

Claim 19 contains features analogous to those recited in claim 1. Thus, Applicants submit that claim 19 is patentable at least for reasons analogous to those discussed above regarding claim 1 and respectfully request withdrawal of the rejection.

The Examiner has rejected claims 3-4 and 7-12 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takano in view of Miyoshi in further view of U.S. Patent No. 5,873,028 to Nakano et al. (hereinafter "Nakano"). Because these claims are dependent on claim 1, Applicants submit that they are patentable at least by virtue of their dependency and respectfully request withdrawal of the rejection.

Conclusion

For all the foregoing reasons it is respectfully submitted that claims 1, 3-17, and 19, being all the claims present in the application, are patentable and that this application is in condition for allowance. It is therefore respectfully requested that the subject application be passed to issue at the earliest possible time.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 CFR §1.111
Application No. 10/562,830

Docket No. Q91798

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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